

CLAIM AMENDMENTS

1. (Currently Amended) A power converter including a plurality of power units, each of said power units comprising:

an input transformer group including at least one input transformer having at least one primary winding connected with a first polyphase AC power supply, and at least one secondary winding;

a polyphase self-excited rectifier circuit connected with said secondary winding; ~~and~~

a single-phase self-excited inverter circuit ~~connected with;~~ and

a DC link circuit connecting said single-phase self-excited rectifier circuit to said
~~polyphase self-excited rectifier circuit through a DC link circuit~~ to generate a single-phase power output, wherein mutually adjacent ones of said power units in each phase are sequentially cascaded in series with one another, with one of said power units at ~~one~~ a first end of ~~the~~ a cascade connection being connected with a polyphase AC load, another one of said power units at ~~the other~~ a second end of the cascade connection being connected with a neutral point, whereby electric power is input from said first polyphase AC power supply to said power units and output ~~therefrom~~ from said power units to said polyphase AC load, or the electric power of said polyphase AC load is regenerated to said first polyphase AC power supply.

2. (Original) The power converter as set forth in claim 1, wherein said polyphase self-excited rectifier circuit includes mutually parallel-connected phase modules corresponding in number to the number of phases of said first polyphase AC power supply, and said single-phase self-excited inverter circuit includes two phase modules.

3. (Currently Amended) The power converter as set forth in claim 2, wherein said phase module includes self-arc-extinguishing ~~type~~ semiconductor devices.

4. (Currently Amended) The power converter as set forth in claim 2, wherein said phase modules of said single-phase self-excited inverter circuit ~~has~~ have a current rating greater than that of said phase modules of said polyphase self-excited rectifier circuit.

5. (Currently Amended) The power converter as set forth in claim 1, wherein said DC link circuit includes a filter capacitor having opposite terminals charged at different potentials, and said single-phase self-excited inverter circuit selectively outputs one of the

~~different potentials at the opposite terminals of said filter capacitor~~ in a single phase.

6. (Currently Amended) The power converter as set forth in claim 1, wherein said DC link circuit includes filter capacitors ~~being~~ connected in series with one another and having three terminals charged at different potentials, and said single-phase self-excited inverter circuit selectively outputs one of the ~~different potentials at said three terminals~~ in a single phase.

7. (Currently Amended) The power converter as set forth in claim 1, wherein said input transformer group includes ~~said~~ an input transformer having ~~said~~ one primary winding and ~~said~~ secondary windings corresponding in number to the number of phases of said polyphase AC load.

8. (Currently Amended) The power converter as set forth in claim 1, wherein said input transformer group includes ~~said~~ input transformers corresponding in number to the number of phases of said polyphase AC load, each of said input transformers having ~~said~~ one primary winding and ~~said~~ one secondary winding.

9. (Currently Amended) The power converter as set forth in claim 6, wherein said input transformer group includes ~~said~~ input transformers corresponding in number to the number of phases of said polyphase AC load, each of said input transformers having ~~said~~ one primary winding and at least one pair of secondary windings comprising a star connection and a delta connection, and said polyphase self-excited rectifier circuit includes two polyphase diode rectifier circuits which are connected in parallel to said filter capacitors, respectively, of said DC link circuit, and ~~at the same time~~ connected with said star connection ~~side~~ and said delta connection ~~side~~, respectively, of said paired secondary windings.

10. (Currently Amended) The power converter as set forth in claim 6, wherein said input transformer group includes ~~said~~ one input transformer having ~~said~~ one primary winding and a plurality of pairs of secondary windings corresponding in number to the phases of said first polyphase AC load, each pair of said secondary windings comprising a star connection and a delta connection, and said polyphase self-excited rectifier circuit includes two polyphase diode rectifier circuits which are connected in parallel to said filter capacitors, respectively, of said DC link circuit, and ~~at the same time~~ connected with said star connection ~~side~~ and said delta connection ~~side~~, respectively, of said paired secondary windings.

11. (Currently Amended) The power converter as set forth in claim 1, wherein said at least one power unit has a passable input capacity different from that of ~~the~~ others of said power units.

12. (Currently Amended) The power converter as set forth in claim 1, wherein said at least one power unit has a passable output capacity different from that of ~~the~~ others of said power units.

13. (Currently Amended) The power converter as set forth in claim 1, wherein said power units arranged at ~~the~~ opposite ends of the cascade connection are connected with ~~two~~, second and third, polyphase AC power supplies, other than said first polyphase AC power supply, so that electric power is input from said first polyphase AC power supply to said power units and output ~~therefrom~~ to said second and third polyphase AC power supplies, or ~~the electric powers of power from~~ said second and third polyphase AC power supplies ~~are~~ is reversely supplied to said first polyphase AC power supply.

14. (Currently Amended) The power converter as set forth in claim 1, wherein said plurality of power units are divided into a plurality of groups, and in each of which group mutually adjacent ~~ones of said~~ power units in each phase are sequentially cascaded in series with one another, and one of said power units at ~~one~~ a first end of the cascade connection is connected with said polyphase AC load, and another one of said power units at ~~the other~~ a second end of the cascade connection is connected with said neutral point, or said power units at the opposite ends are respectively connected with ~~two~~, second and third, polyphase AC power supplies, other than said first polyphase AC power supply.

15. (Currently Amended) The power converter as set forth in claim 1, wherein each of said power units includes a plurality of power cells, each power cell having a phase module, and said DC link circuit includes a filter capacitor having opposite terminals charged at different potentials, said phase module including a plurality of direct current buses ~~of~~ at different potentials, which are connected with said filter capacitor, and a cooling header, which ~~are~~ is arranged in parallel to said direct current buses for guiding a cooling medium to flow therethrough.

16. (Currently Amended) The power converter as set forth in claim 5, wherein each

of said power units includes a plurality of power cells, each power cell having a phase module, and when ~~there takes place an~~ abnormality occurs in said phase module, said single phase self-excited inverter circuit forcibly fixes ~~the state of~~ switching state of said phase module ~~so as~~ to inhibit an electric current from flowing into said filter capacitor of said DC link circuit.

17. (Currently Amended) The power converter as set forth in claim 1, wherein said first polyphase AC power supply ~~is provided with~~ includes a turbogenerator group including a plurality of turbogenerators, and said polyphase AC load comprises an electric motor for driving a compressor.

18. (Currently Amended) The power converter as set forth in claim 1, wherein said DC link circuit includes a filter capacitor having opposite terminals charged at different potentials, and the poly-phase self-excited rectifier circuit adjusts the input power factor thereof so that the potential of the opposite terminals can be ~~properly~~ controlled.

19. (Currently Amended) The power converter as set forth in claim 1, wherein said DC link circuit includes filter capacitors ~~being~~ connected in series with one another and having three terminals charged at different potentials, and the poly-phase self-excited rectifier circuit adjusts the input power factor thereof so that the potentials of the three terminals can be ~~properly~~ controlled.